



**FIREWISE CONSTRUCTION**

# FireWise Construction



## FireWise Neighborhood

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**This neighborhood has acted to reduce accumulations of hazardous forest-fuels, promote the use of limited-combustible building materials, and educate property owners regarding the risk of wildfire and steps necessary to reduce the threat.**

**In recognition of this achievement, this award is presented by the Flagstaff Fire Department.**

# What Is FireWise Construction

- Promotes fire resistiveness
- Required for new construction (in Flagstaff)
- Found predominately in the Wildland-Urban Interface
- Compliments vegetation management
- Behavior modification (landscaping & storage)
- Site location
- Roof material
- Roof venting
- Soffits & eaves
- Siding material
- Deck material & construction

# What is the Wildland – Urban Interface?

## Traditional Definition

Where structural improvements are built in close proximity to or among forested areas.

## New Definition

Where community values may be threatened by a catastrophic wildfires.

Values such as:  
watersheds, wildlife habitat, recreation, economic development, public health, emotional connectedness to the land.

# Traditional Wildland – Urban Interface

## The Flagstaff “Interface”



# FireWise Roofs

Burning Brand Test –  
brands applied to roof  
covering (to see if they  
ignite)

Flying Brand Test –  
flame applied to roof  
covering (to see if they  
create flying embers)

Class A – effective  
against severe fire  
exposure.

Class B – effective  
against moderate fire  
exposure.

Class C – effective  
against light fire  
exposure.

Flame Spread also  
tested.

# FireWise Roofs

- Metal: sheet & shingles
- Slate Shingles
- Clay Tile
- Asphalt Shingles
- Fiber-cement Shingles
- Membrane Roofs: covered with concrete

NO WOOD SHAKES OR SHINGLES!!

# Metal Roof



# Slate Shingles



# Clay Tile



# FireWise Soffits & Roof Venting

## Soffits

The extension of the roof beyond the exterior wall is the eave. Enclosing the eave creates a soffit.

## Roof Venting

- Gable vents
- Turbine vents
- Metal vents
- Eave fascia vents
- Dormer vents

Vents subject to embers need wire mesh  $\frac{1}{4}$  inch or smaller

# Gable Vents



# Metal Vents



# Dormer Vents



# Soffit Enclosures



# Siding Material

- Fiber Cement Products
  - HardiBoard
  - HardiPlank
- Masonry Products
  - Concrete block
  - Rock (veneer or solid)
  - Stucco

# Fiber Cement Siding



# Stucco



# FireWise Decks

- Deck assemblies are not lab tested for performance in wildfires.
- Deck assemblies are not tested like roofs are tested.
- Decks are second most vulnerable component of a home to ignite during wildfires.
- Accumulation of debris (ex: pine needles) on surface and vegetation under decks are primary problems.

# Flagstaff Fire Dept Deck Tests

- Ad Hoc tests periodically.
- Decks subjected to burning embers.
- Decks subjected to a surface fire.
- Wood and composite materials

# Deck Test – Burning Embers



# Deck Test – Burning Embers



# Deck Test – Surface Fire



# Deck Test – Surface Fire



# Deck Test – Surface Fire



# Deck Stairs



# Deck Stairs



# Deck Storage – Nothing Under the Deck



# Vegetation Management

- Ponderosa Pine forests are a “fire dependant” ecosystem. (low intensity & frequent fire)
- Catastrophic wildfire is NOT NORMAL.
- Historical tree density between 20 to 60 trees per acre.
- Existing tree density between 200 – 1,000 trees per acre.
- Thin first, then broadcast burn.
- Remove fuel ladders & horizontal continuity.
- Landscape with fire resistant plants.

# Current Vegetative Condition



# Thinned Area After Treatment



# FireWise Landscaping



# Summary

- FireWise development is affordable and attainable with existing technology.
- Educating the community is preferred over enforcement, but enforcement may be necessary.
- Human behaviors must be addressed (storage under decks, maintenance & woodpiles).
- Homeowner responsibility and accountability is key to community safety.
- The Flagstaff Fire Dept and others will help.
- Call Flagstaff Fire at (928) 213-2500 or visit our website: [www.flagstaff.az.gov/wildlandfire](http://www.flagstaff.az.gov/wildlandfire).

# Don't Be This Guy

